General

Guideline Title

ASGE guideline: the role of endoscopy in the surveillance of premalignant conditions of the upper GI tract.

Bibliographic Source(s)

Hirota WK, Zuckerman MJ, Adler DG, Davila RE, Egan J, Leighton JA, Qureshi WA, Rajan E, Fanelli R, Wheeler-Harbaugh J, Baron TH, Faigel DO, Standards of Practice Committee, American Society for Gastrointestinal Endoscopy. ASGE guideline: the role of endoscopy in the surveillance of premalignant conditions of the upper GI tract. Gastrointest Endosc. 2006 Apr;63(4):570-80. [171 references] PubMed

Guideline Status

This is the current release of the guideline.

The guideline was reaffirmed for currency by the developer in 2011.

Recommendations

Major Recommendations

The summary of recommendations is followed by evidence grades (A-C) identifying the type of supporting evidence. Definitions of the evidence grades are presented at the end of the "Major Recommendations" field.

Esophageal Cancer

Barrett's Esophagus

Screening esophagogastroduodenoscopy (EGD) for Barrett's esophagus should be considered in selected patients with chronic, longstanding gastroesophageal reflux disease (GERD). After a negative screening examination, further screening endoscopy is not indicated. The cost effectiveness of surveillance in patients without dysplasia is controversial. Surveillance endoscopy is appropriate for patients fit to undergo therapy, should endoscopic/histologic findings dictate. For patients with established Barrett's esophagus of any length and with no dysplasia, after 2 consecutive examinations within 1 year, an acceptable interval for additional surveillance is every 3 years.

Patients with high-grade dysplasia are at significant risk for prevalent or incident cancer. Patients who are surgical candidates may elect to have definitive therapy. Patients who elect surveillance endoscopy should undergo follow-up every 3 months for at least 1 year, with multiple large capacity biopsy specimens obtained at 1 cm intervals. After 1 year of no cancer detection, the interval of surveillance may be lengthened if there are no dysplastic changes on 2 subsequent endoscopies performed at 3-month intervals. High-grade dysplasia should be confirmed by an expert GI pathologist.

Surveillance in patients with low-grade dysplasia is recommended. The significance of low-grade dysplasia as a risk factor for cancer remains poorly defined; therefore, the optimal interval and biopsy protocol has not been established. A follow-up EGD (i.e., at 6 months)

should be performed with concentrated biopsies in the area of dysplasia. If low-grade dysplasia is confirmed, then one possible management scheme would be surveillance at 12 months and yearly thereafter as long as dysplasia persists.
If the presence or degree of dysplasia is indeterminate and there is evidence of acute inflammation due to gastroesophageal acid reflux, repeat biopsy should be performed after 8 weeks of effective acid-suppression therapy.

Achalasia

There are insufficient data to support routine endoscopic surveillance for patients with achalasia.
If surveillance were to be considered, it would be reasonable to initiate it 15 years after onset of symptoms, but the subsequent surveillance interval is not defined.

Caustic Injury

Begin endoscopic surveillance 15 to 20 years after caustic ingestion.
The time interval of endoscopic surveillance requires study. Generally, endoscopic examination should not be conducted more frequently than every 1 to 3 years. There should be a low threshold to evaluate swallowing problems with endoscopy.

Tylosis

Begin endoscopic surveillance at age 30 years.
The time interval of endoscopic surveillance requires study. Generally, endoscopic examination should not be conducted more frequently than every 1 to 3 years.

History of Upper Aerodigestive Tract Cancer

There are insufficient data to support routine endoscopic surveillance for patients with previous aerodigestive squamous cell cancer.
A single endoscopy may be indicated to identify synchronous esophageal cancer.

Gastric Cancer

Gastric Epithelial Polyps

Adenomatous gastric polyps are at increased risk for malignant transformation and should be resected completely. Hyperplastic polyps have a rare malignant potential. Endoscopic polyp appearance cannot differentiate histologic subtypes; therefore biopsy or polypectomy is recommended when a polyp is encountered.
Polypoid defects of any size detected radiographically should be evaluated endoscopically, with biopsy and/or removal of the lesions.
Polyps should be endoscopically excised wherever feasible and clinically appropriate. If endoscopic polypectomy is not possible, a biopsy of the polyp should be performed, and if adenomatous or dysplastic tissue is detected, referral for surgical resection should be considered. If representative biopsy samples are obtained and the polyp is nondysplastic, no further intervention is necessary. If it is felt that endoscopic biopsy cannot sufficiently exclude the presence of dysplastic elements, referral for surgical resection is reasonable in polyps that cannot be removed endoscopically.
When multiple gastric polyps are encountered, a biopsy of the largest polyps should be performed or they should be excised, and representative biopsy specimens should be taken from some others. Further management should be based on histologic results.
Surveillance endoscopy 1 year after removing adenomatous gastric polyps is reasonable to assess recurrence at the prior excision site, new or previously missed polyps, and/or supervening early carcinoma. If the results of this examination are negative, repeat surveillance endoscopy should be repeated no more frequently than at 3- to 5-year intervals. Follow-up after resection of polyps with high-grade dysplasia and early gastric cancer should be individualized.
No surveillance endoscopy is necessary after adequate sampling or removal of nondysplastic gastric polyps.

Gastric Intestinal Metaplasia and Dysplasia

Endoscopic surveillance for gastric intestinal metaplasia has not been extensively studied in the U.S. and therefore cannot be uniformly recommended.
Patients at increased risk for gastric cancer due to ethnic background or family history may benefit from surveillance.
Endoscopic surveillance should incorporate a topographic mapping of the entire stomach.
Patients with confirmed high-grade dysplasia are at significant risk for progressing to cancer and should be considered for gastrectomy or local (e.g., endoscopic) resection.

Pernicious Anemia and Gastric Carcinoid Tumors

A single endoscopy should be considered to identify prevalent lesions (gastric cancer, carcinoid tumors) in patients with pernicious anemia, but there are insufficient data to support routine subsequent endoscopic surveillance for these patients.
Surveillance of carcinoid tumors is controversial and should be individualized to the patient.

Postgastric Surgery

There are insufficient data to support routine endoscopic surveillance for patients with previous partial gastrectomy for peptic ulcer disease.
Because gastric surgeries are performed for peptic ulcer disease, an index endoscopy should be performed to establish the presence of *Helicobacter pylori* infection, chronic gastritis, and/or intestinal metaplasia.
If surveillance is considered, it should be initiated after an interval of 15 to 20 years. Multiple biopsies from the anastomosis and gastric remnant should be taken. The threshold should be low in order to endoscopically evaluate upper gastrointestinal symptoms.

Familial Adenomatous Polyposis and Hereditary Nonpolyposis Colorectal Cancer

Patients with familial adenomatous polyposis (FAP) should undergo upper endoscopy with both end-viewing and side-viewing instruments.
The optimal timing of initial upper endoscopy is unknown, but could be performed around the time the patient is considered for colectomy, or early in the third decade of life. If no adenomas are detected, another exam should be performed in 5 years because adenomatous change may occur later in the course of the disease.
For patients with duodenal and periampullary adenomas, surveillance endoscopy and biopsy should be performed at intervals based on stage of disease. Endoscopic treatment of papillary adenomas may be appropriate in selected patients. If excision is complete, one approach is for follow-up endoscopy and multiple biopsies every 6 months for a minimum of 2 years, with endoscopy thereafter at 3-year intervals.
A biopsy of the duodenal polyps should be performed or sampled at the time of initial discovery and on each subsequent examination to determine the stage of duodenal polyposis. The frequency of exams and referral for prophylactic surgery are determined on the basis of duodenal polyp stage.
Biopsies of gastric polyps in patients with FAP may be performed to confirm that they are fundic gland polyps and to assess for dysplasia. Antral polyps are usually adenomas and should be resected.
Surgical consultation should be obtained for those patients with advanced (stage IV) duodenal polyposis in an effort to prevent periampullary/duodenal carcinoma. Management of high-grade dysplasia in the periampullary region (surgery/ablative therapy versus more frequent surveillance) is controversial and must be individualized.
Patients with hereditary nonpolyposis colorectal cancer (HNPCC) are at increased risk for the development of gastric and small-bowel cancer. Although there is insufficient data to show a benefit for upper endoscopic surveillance in patients with HNPCC, endoscopic surveillance should be considered.

Summary

Patients with chronic GERD at risk for Barrett's esophagus should be considered for endoscopic screening (B).
In patients with Barrett's esophagus without dysplasia, the cost effectiveness of surveillance endoscopy is controversial. If surveillance is performed, an interval of 3 years is acceptable (C).
Although an increased cancer risk has not been established in patients with Barrett's esophagus and low-grade dysplasia, endoscopy at 6 months and yearly thereafter should be considered (C).
Patients with Barrett's esophagus with confirmed high-grade dysplasia should be considered for surgery or aggressive endoscopic therapy (B). Patients with high-grade dysplasia who elect endoscopic surveillance should be followed up closely (i.e., every 3 months) for at least 1 year. If no further high-grade dysplasia is confirmed, then the interval between follow-ups may be lengthened (B).
There are insufficient data to recommend routine surveillance for patients with achalasia (C).
Patients with a severe caustic esophageal injury should undergo surveillance every 1 to 3 years beginning 15 to 20 years after the injury (C).
Patients with tylosis should undergo surveillance endoscopy every 1 to 3 years beginning at age 30 years (C).
There are insufficient data to support routine endoscopic surveillance for patients with previous aerodigestive squamous cell cancer (C).
Adenomatous gastric polyps should be resected because of the risk for malignant transformation (B). Adenomatous polyps may recur in synchronous and metachronous sites, and surveillance endoscopies should be performed at 3- to 5-year intervals (C).
Endoscopic surveillance for gastric intestinal metaplasia has not been extensively studied in the U.S. and therefore cannot be routinely recommended (C). However, there may be a subgroup of high-risk patients who will benefit from endoscopic surveillance (B).
Patients with confirmed gastric high-grade dysplasia should be considered for gastrectomy or local resection because of the high incidence of prevalent carcinoma (B).
Patients with pernicious anemia may be considered for a single screening endoscopy, particularly if symptomatic, but there are insufficient data to recommend ongoing surveillance (C).

There are insufficient data to support routine endoscopic surveillance in patients with previous partial gastrectomy for peptic ulcer disease (C).
Patients with FAP should undergo regular surveillance endoscopy using both end-viewing and side-viewing endoscopes, starting around the time of colectomy or after age 30 years (B).
Patients with HNPCC have an increased risk of gastric and small-bowel cancer (B). Surveillance should be strongly considered (C).

Definitions:

Prospective controlled trials
Observational studies
Expert opinion

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Premalignant conditions of the upper gastrointestinal tract, including:

Barrett's esophagus
Gastroesophageal reflux disease
Achalasia
Caustic ingestion injury
Tylosis
Upper aerodigestive tract cancer
Squamous cell cancer of the head and neck
Gastric epithelial polyps
Intestinal metaplasia of the stomach
Gastric intestinal dysplasia
Pernicious anemia
Postgastrectomy
Familial adenomatous polyposis
Hereditary nonpolyposis colorectal cancer syndrome

Guideline Category

Diagnosis

Evaluation

Management

Screening

Clinical Specialty

Gastroenterology

Oncology

Intended Users

Physicians

Guideline Objective(s)

To provide guidelines for surveillance of premalignant upper gastrointestinal conditions with endoscopic follow-up of individuals who are at increased risk for malignancy or in whom a neoplastic lesion has been identified and removed

Target Population

Patients with premalignant conditions of the upper gastrointestinal tract

Interventions and Practices Considered

- Surveillance endoscopy
- Biopsy of endoscopic specimens
- Gastric polyp removal
- Surgical consultation and referral

Major Outcomes Considered

- Incidence of cancer arising from upper gastrointestinal (UGI) premalignant conditions
- Survival benefit of surveillance endoscopy procedures
- Cost of surveillance procedures

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

In preparing this guideline, a MEDLINE literature search was performed, and additional references were obtained from the bibliographies of the identified articles and from recommendations of expert consultants.

2011 Currency Review Process

A review of citations from the previous guideline was augmented with searches of electronic databases including MEDLINE, PubMed, CINAHL, Embase, and Cochrane, along with review of proceedings from national meetings since 2005. The date range for all searches was from the time of the last update (2005) through 2010 inclusive. Topics searched included premalignant conditions of the upper gastrointestinal tracts including but not limited to Barrett's esophagus, gastric intestinal metaplasia, tylosis, achalasia, and caustic injury.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Guidelines for appropriate utilization of endoscopy are based on a critical review of the available data and expert consensus.

2011 Currency Review Process

The American Society for Gastrointestinal Endoscopy Standards of Practice Committee reviewed this guideline in August 2011. An update is anticipated in 2012.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

Published cost analyses were reviewed:

> Economic models suggest that screening high-risk individuals (eg, white males, chronic reflux, age >50 years) is cost effective compared to no screening. These models, however, conflict with each other regarding the cost effectiveness of further surveillance in patients with Barrett's esophagus who are nondysplastic.
> The use of unsedated endoscopy may be a feasible and cost-saving approach for screening and surveillance but requires a motivated patient who will forgo conscious sedation.
> The role of endoscopic surveillance in achalasia is controversial. Despite the lack of demonstrable cost effectiveness, several authors have advocated periodic endoscopy as reasonable after 15 years.
> The role of endoscopic screening and surveillance in patients with upper aerodigestive tract cancers is controversial. Despite the lack of demonstrable cost effectiveness or prolonged survival, several authors have advocated periodic endoscopy.

Method of Guideline Validation

Not stated

Description of Method of Guideline Validation

Not applicable

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and classified for the recommendations using the following scheme:

Prospective controlled trials
Observational studies
Expert opinion

When little or no data exist from well-designed prospective trials, emphasis is given to results from large series and reports from recognized experts. Guidelines for appropriate utilization of endoscopy are based on a critical review of the available data and expert consensus.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate utilization of surveillance endoscopy in patients with premalignant conditions of the upper gastrointestinal tract

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

Further controlled clinical studies are needed to clarify aspects of this statement, and revision may be necessary as new data appear. Clinical consideration may justify a course of action at variance to these recommendations.
The natural history of many of these premalignant conditions is not well characterized, and published surveillance data are limited by both lead-time and length-time bias.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Institute of Medicine (IOM) National Healthcare Quality Report

Categories

IOM Care Need

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Timeliness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2006 Apr (reaffirmed 2011)

Guideline Developer(s)

American Society for Gastrointestinal Endoscopy - Medical Specialty Society

Source(s) of Funding

American Society for Gastrointestinal Endoscopy

Guideline Committee

Standards of Practice Committee

Composition of Group That Authored the Guideline

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Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

The guideline was reaffirmed for currency by the developer in 2011.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the American Society for Gastrointestinal Endoscopy (ASGE) Web site .

Print copies: Available from the American Society for Gastrointestinal Endoscopy, 1520 Kensington Road, Suite 202, Oak Brook, IL 60523

Availability of Companion Documents

None available

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI on June 9, 2006. The currency of the guideline was reaffirmed by the developer in 2011 and updated by ECRI Institute on November 3, 2011.

Copyright Statement

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Readers with questions regarding guideline content are directed to contact the guideline developer.